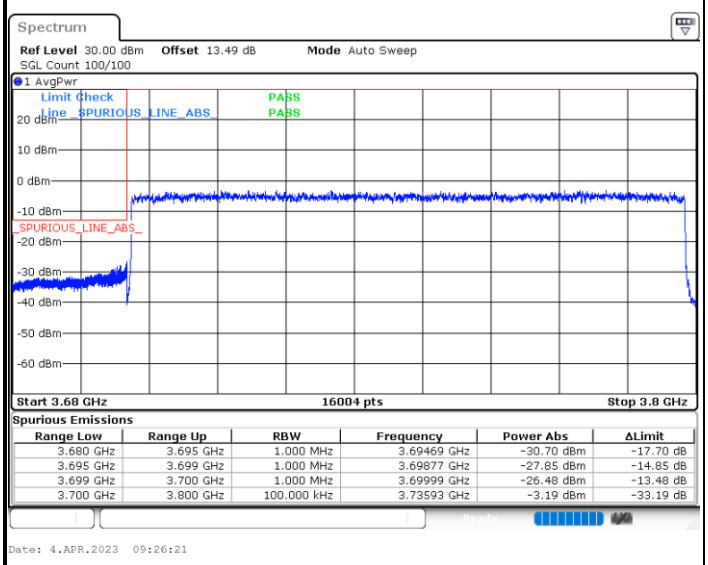
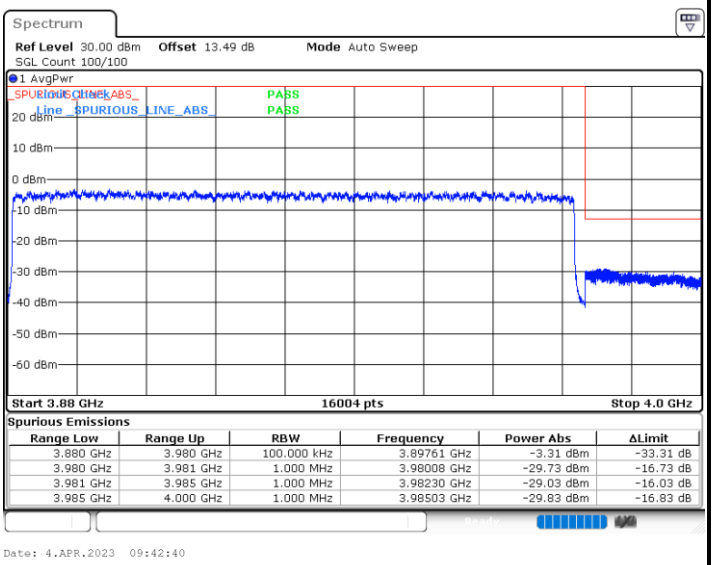
Lowest Band Edge / Full RB	Highest Band Edge / Full RB

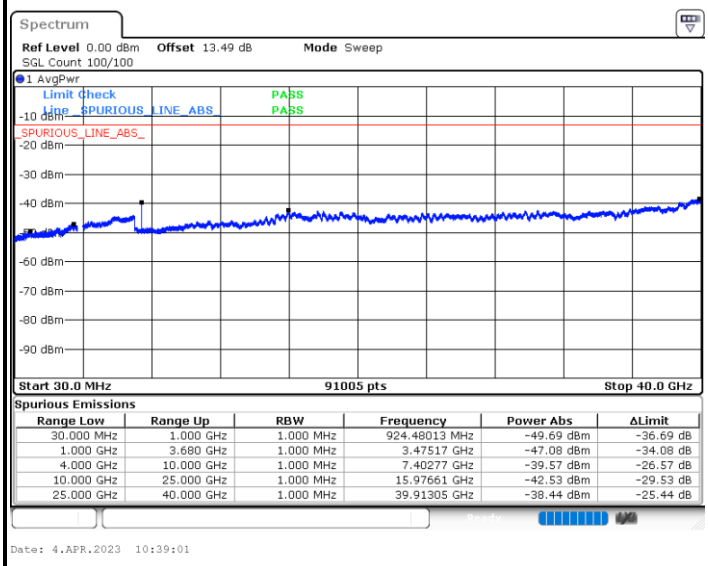




Conducted Spurious Emission

FR1 n77 / 10MHz / DFT-S OFDM / BPSK

Lowest Channel / 1RB1

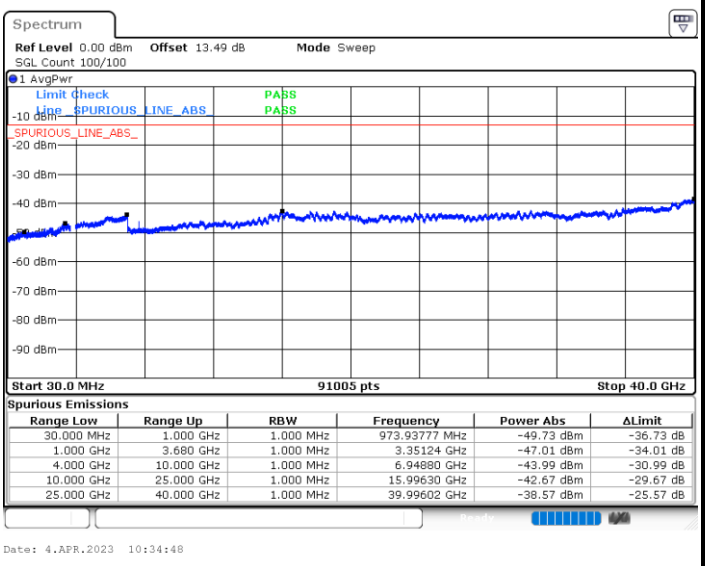


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	924.48013 MHz	-49.69 dBm	-36.69 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-47.08 dBm	-34.08 dB
4.000 GHz	10.000 GHz	1.000 MHz	7.40277 GHz	-39.57 dBm	-26.57 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.97661 GHz	-42.53 dBm	-29.53 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.91305 GHz	-38.44 dBm	-25.44 dB

Date: 4.APR.2023 10:39:01

Middle Channel / 1RB1

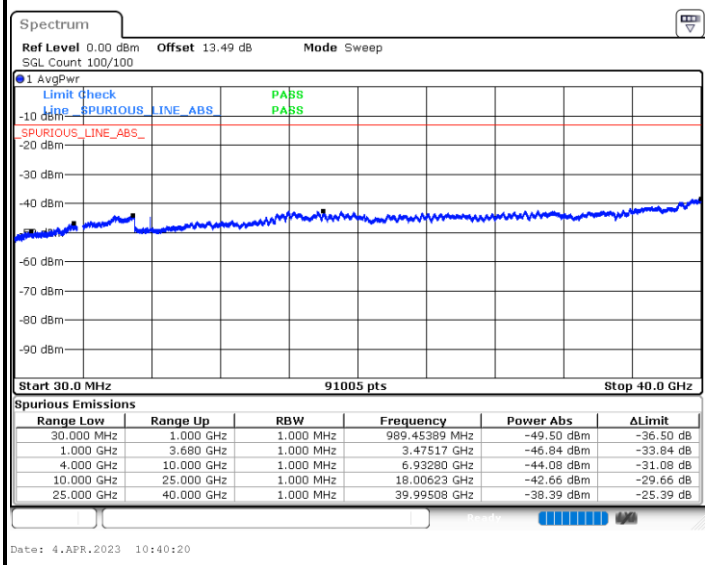


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	973.93777 MHz	-49.73 dBm	-36.73 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.35124 GHz	-47.01 dBm	-34.01 dB
4.000 GHz	10.000 GHz	1.000 MHz	6.94880 GHz	-43.99 dBm	-30.99 dB
10.000 GHz	25.000 GHz	1.000 MHz	15.99630 GHz	-42.67 dBm	-29.67 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99602 GHz	-38.57 dBm	-25.57 dB

Date: 4.APR.2023 10:34:48

Highest Channel / 1RB1



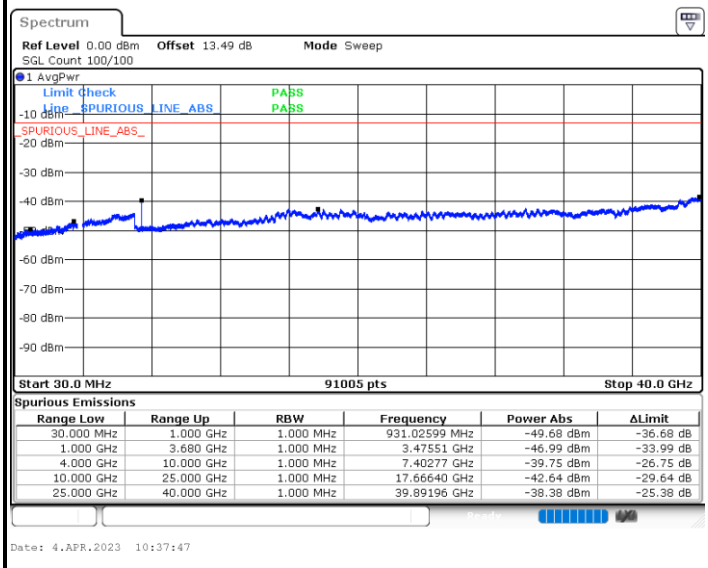
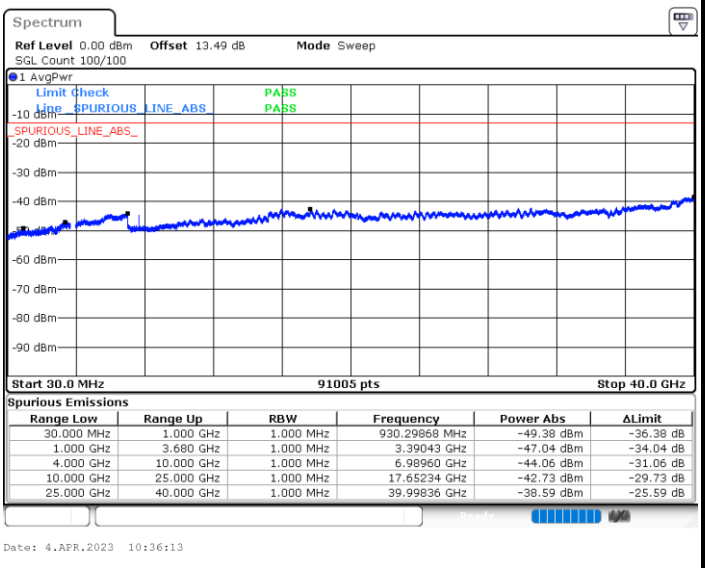
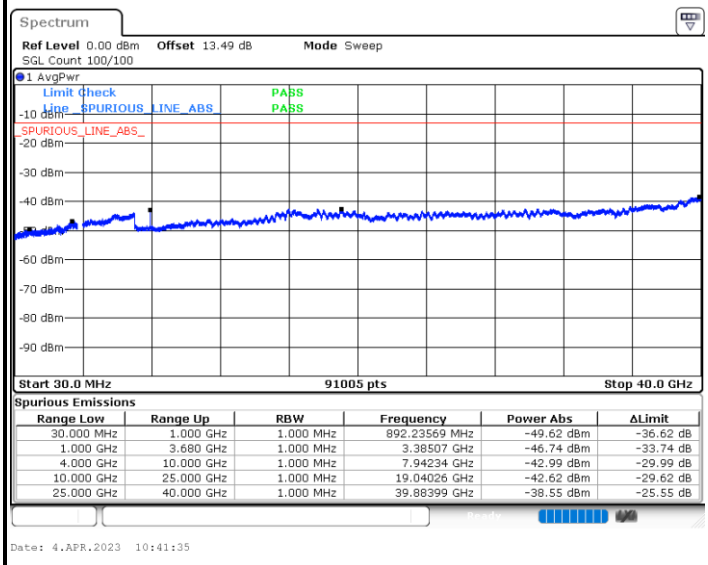
Spurious Emissions

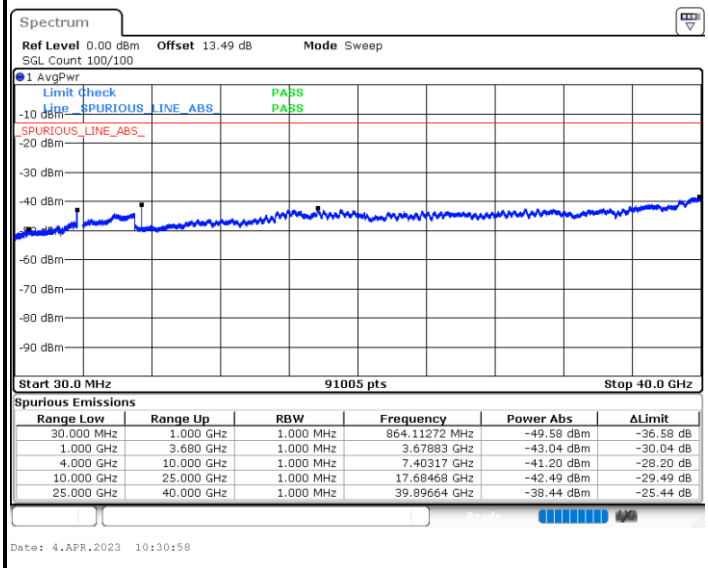
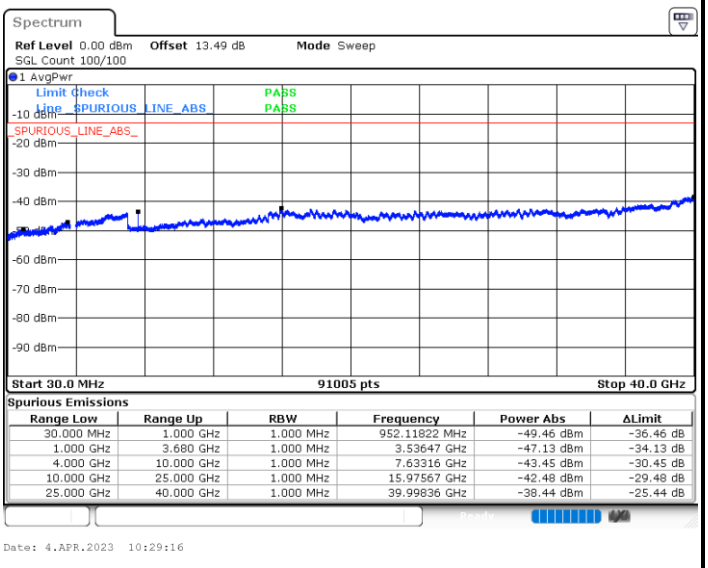
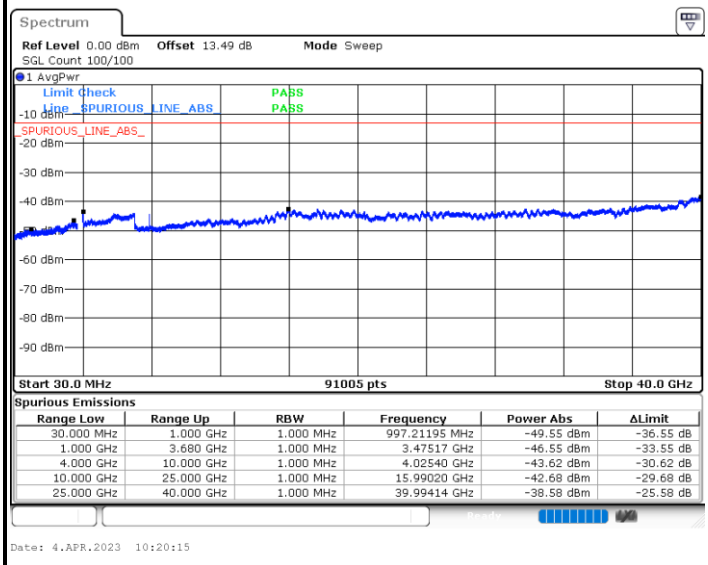
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.45389 MHz	-49.50 dBm	-36.50 dB
1.000 GHz	3.680 GHz	1.000 MHz	3.47517 GHz	-46.84 dBm	-33.84 dB
4.000 GHz	10.000 GHz	1.000 MHz	6.93280 GHz	-44.08 dBm	-31.08 dB
10.000 GHz	25.000 GHz	1.000 MHz	18.00623 GHz	-42.66 dBm	-29.66 dB
25.000 GHz	40.000 GHz	1.000 MHz	39.99508 GHz	-38.39 dBm	-25.39 dB

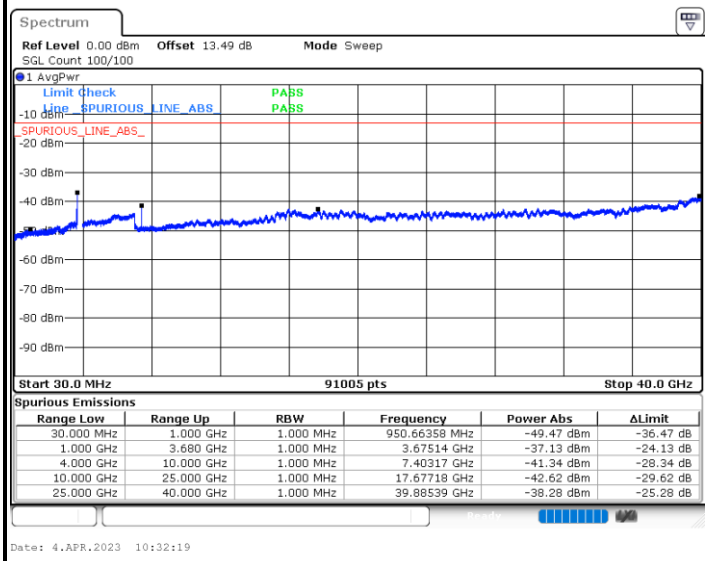
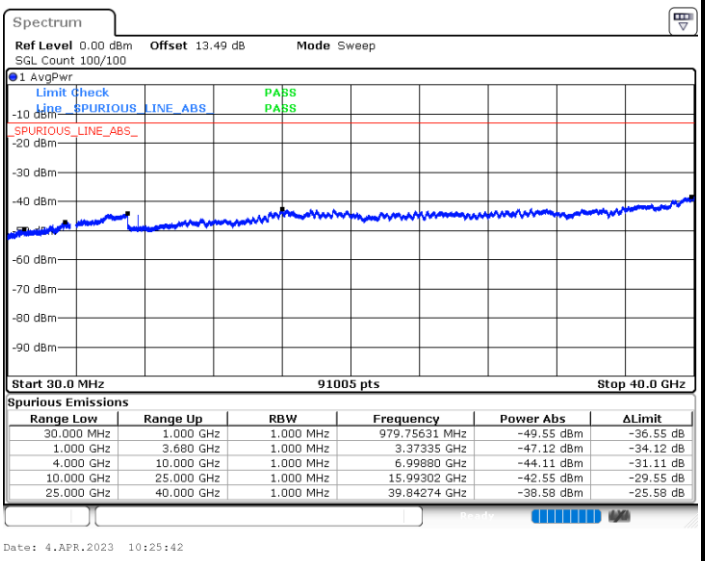
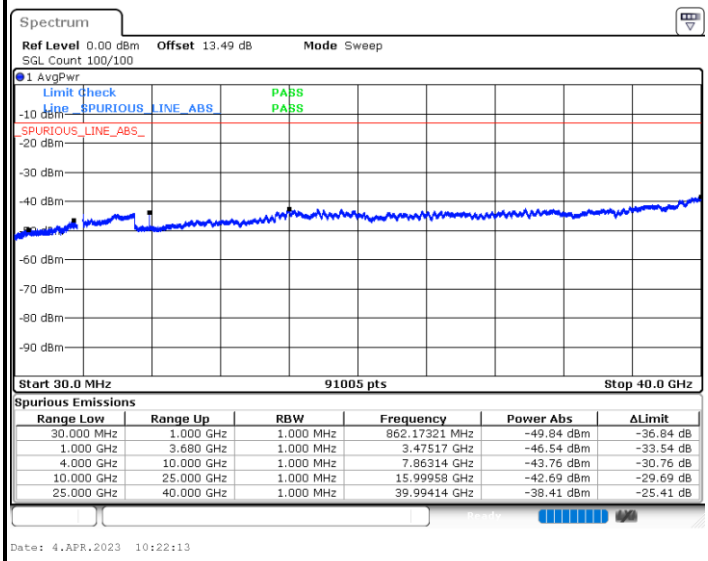
Date: 4.APR.2023 10:40:20

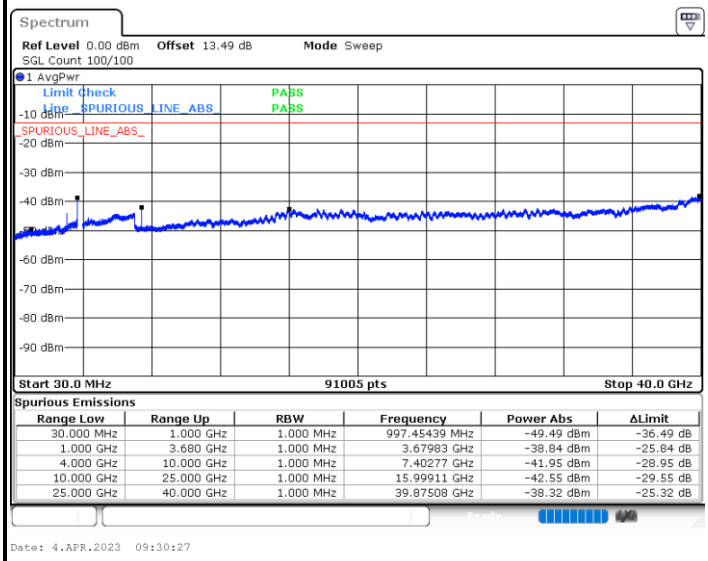
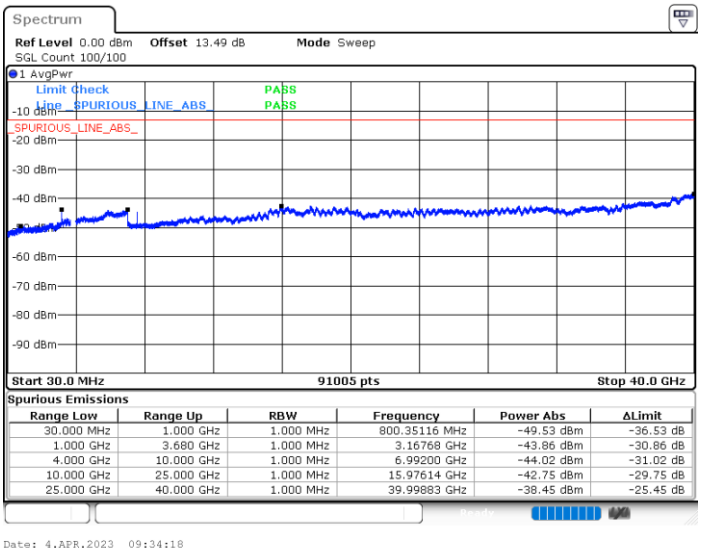
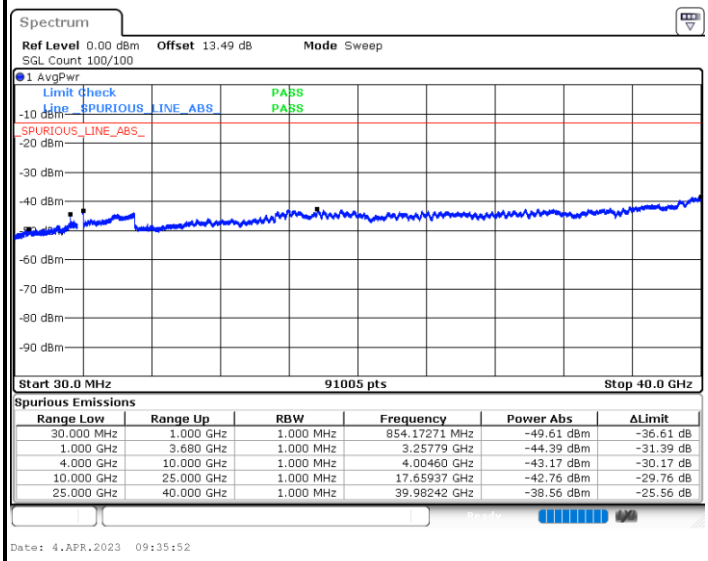
NA

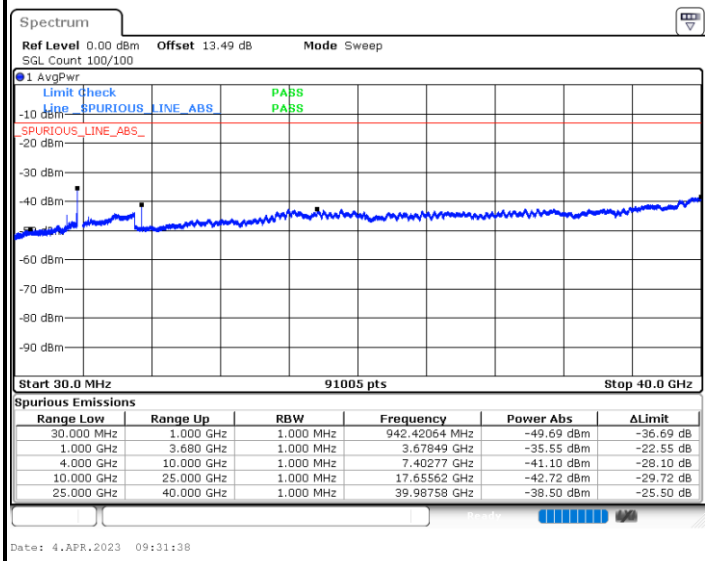
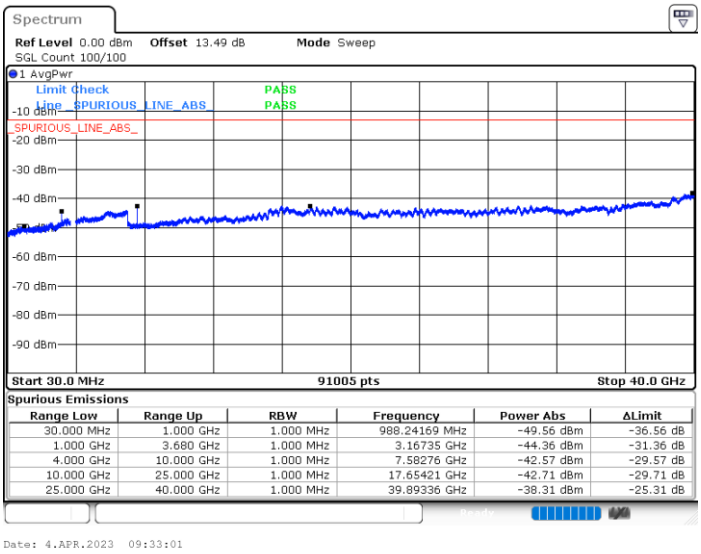
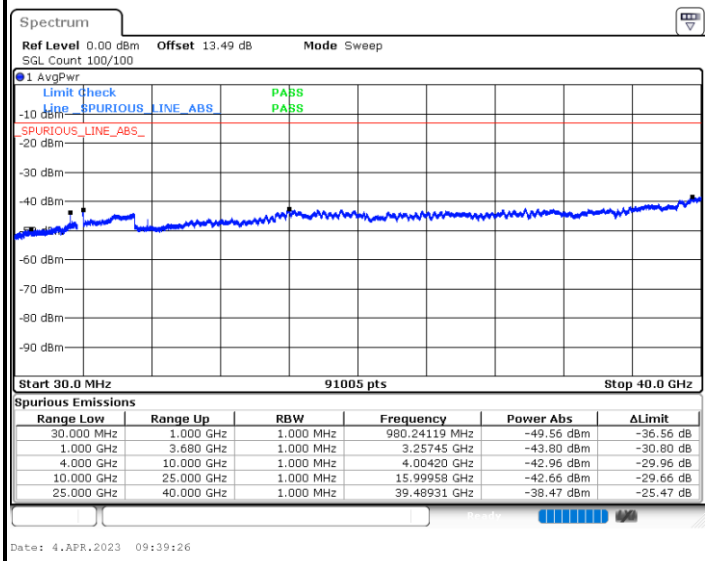
NA

FR1 n77 / 10MHz / DFT-S OFDM /QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	**NA**
	**NA**

FR1 n77 /50MHz / DFT-S OFDM / BPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	**NA**
	**NA**

FR1 n77 /60MHz / DFT-S OFDM /QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	**NA**
	**NA**

FR1 n77 /100MHz / DFT-S OFDM / BPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	**NA**
	**NA**

FR1 n77 /100MHz / DFT-S OFDM /QPSK	
Lowest Channel / 1RB1	**Middle Channel / 1RB1**
	
Highest Channel / 1RB1	**NA**
	**NA**

Frequency Stability

Test Conditions		FR1 n77 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0027	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0015	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0022	
-10	Normal Voltage	0.0013	
-20	Normal Voltage	0.0017	
-30	Normal Voltage	0.0006	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0028	
20	Battery End Point	0.0017	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.3 V.

2. Note: The frequency fundamental emissions stay within the authorized frequency block.

FR1 N77 UL MIMO

Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	10.66	13	**PASS**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	11.16	13	**PASS**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	10.71	13	**PASS**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	10.26	13	**PASS**

N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH

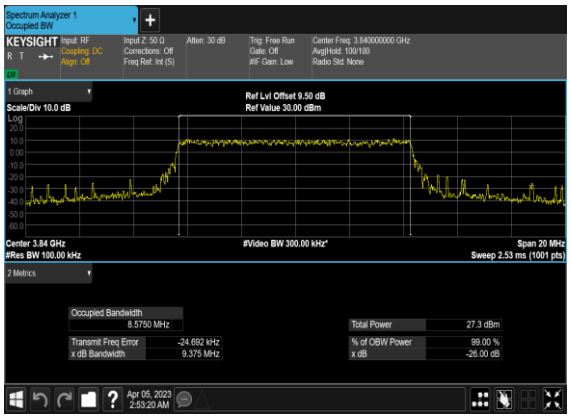
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH

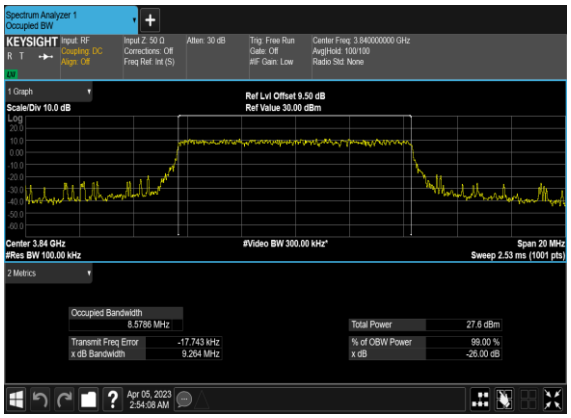
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	10	656000	3840.0	CP-OFDM QPSK	24@0	8.575	9.375
77	30	10	656000	3840.0	CP-OFDM 16 QAM	24@0	8.5786	9.264
77	30	10	656000	3840.0	CP-OFDM 64 QAM	24@0	8.5716	9.395
77	30	10	656000	3840.0	CP-OFDM 256 QAM	24@0	8.5773	9.259
77	30	15	656000	3840.0	CP-OFDM QPSK	38@0	13.568	14.52
77	30	15	656000	3840.0	CP-OFDM 16 QAM	38@0	13.537	14.38
77	30	15	656000	3840.0	CP-OFDM 64 QAM	38@0	13.561	14.41
77	30	15	656000	3840.0	CP-OFDM 256 QAM	38@0	13.554	14.22
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.16	19.3
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.194	19.23
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.155	18.98
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.205	19.22
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.796	39.39
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.783	39.28
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.875	39.19
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.813	39.22
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.401	48.97
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.536	49.27
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.587	49.35
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.425	49.32
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.638	59.74
77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.783	60.02
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.756	59.72
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.962	59.74
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.397	79.89
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.396	79.91
77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.461	80.04
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.508	79.88
77	30	90	656000	3840.0	CP-OFDM QPSK	245@0	87.272	90.29
77	30	90	656000	3840.0	CP-OFDM 16 QAM	245@0	87.541	90.21
77	30	90	656000	3840.0	CP-OFDM 64 QAM	245@0	87.5	90.33
77	30	90	656000	3840.0	CP-OFDM 256 QAM	245@0	87.556	90.21
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.14	100.5
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.185	100.4
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.385	100.5
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.154	100.5

N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

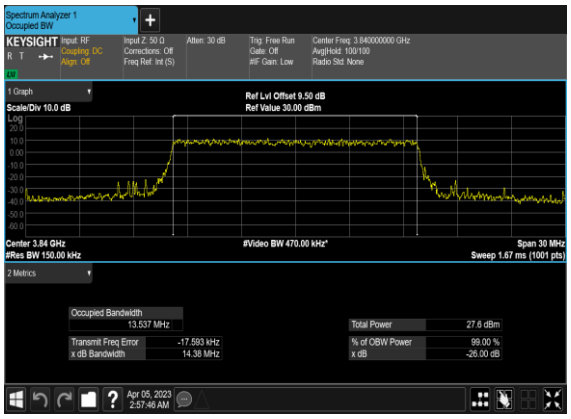


N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

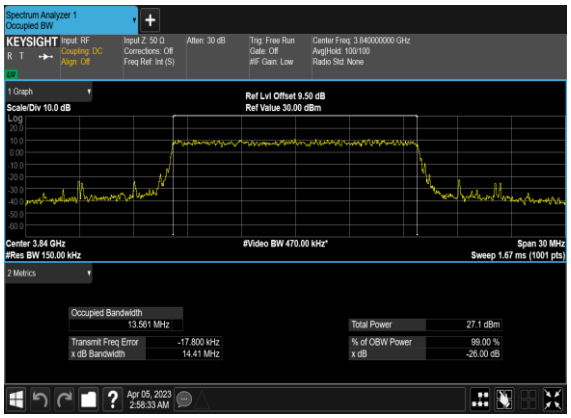
N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

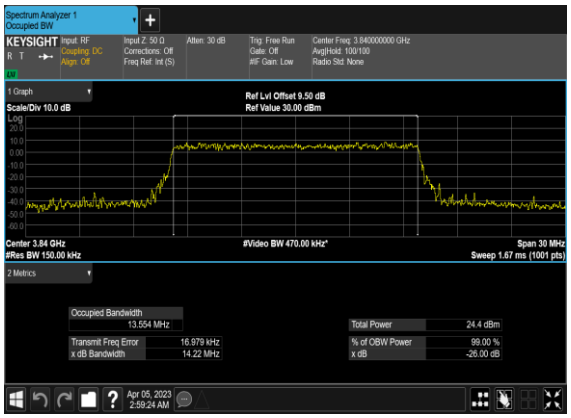
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



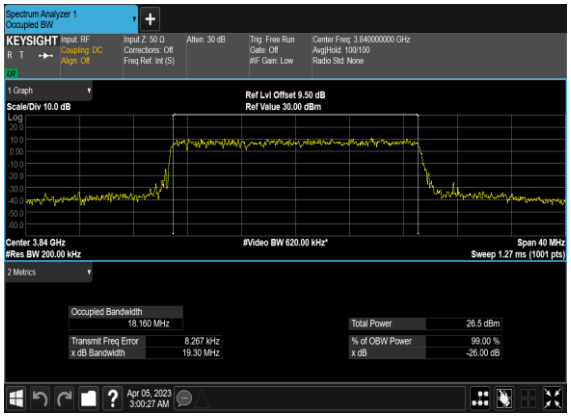
N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

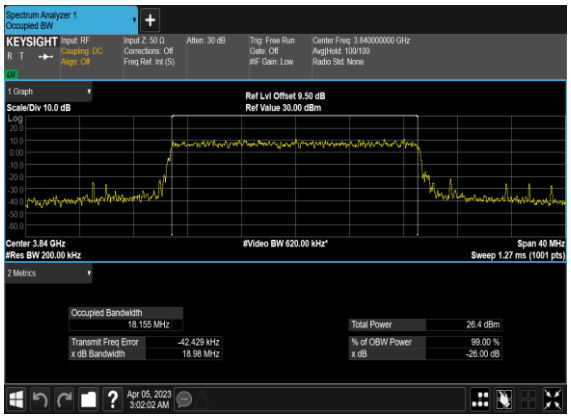


N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

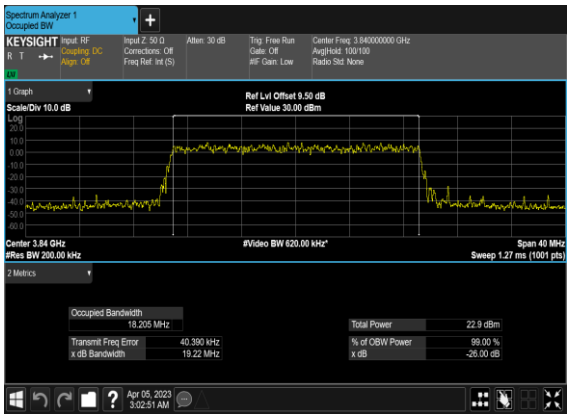


N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

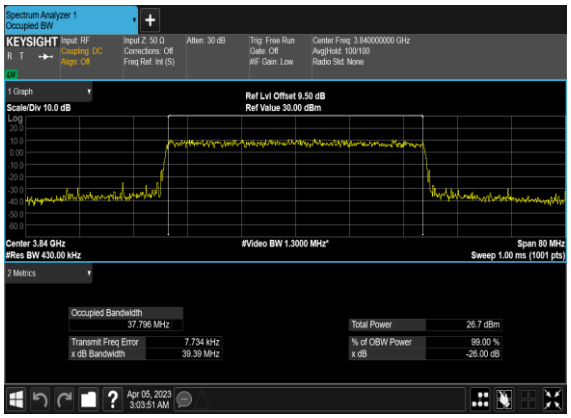
N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



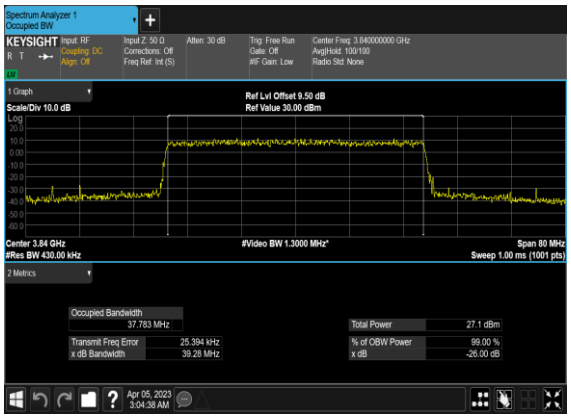
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



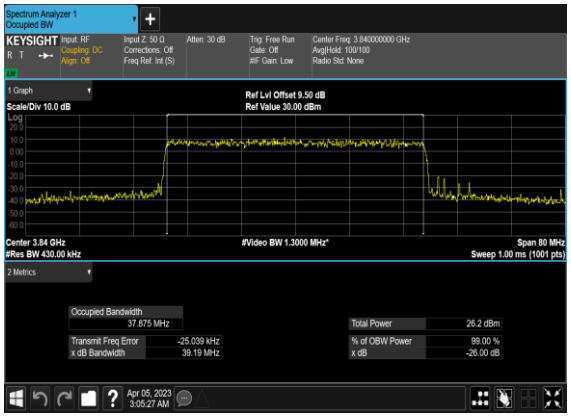
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



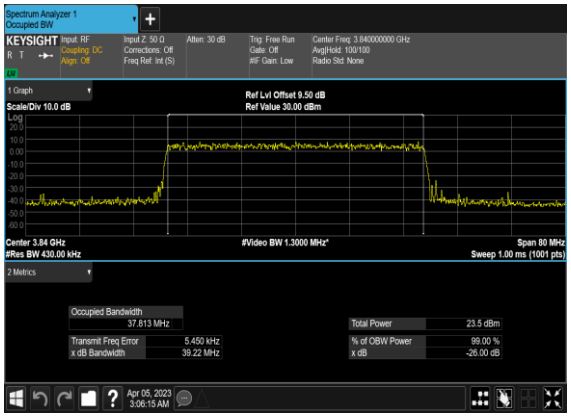
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



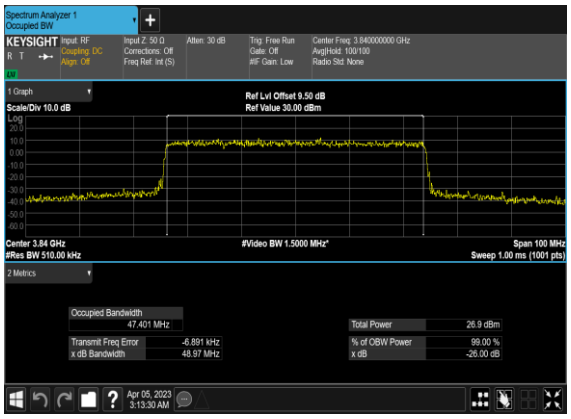
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

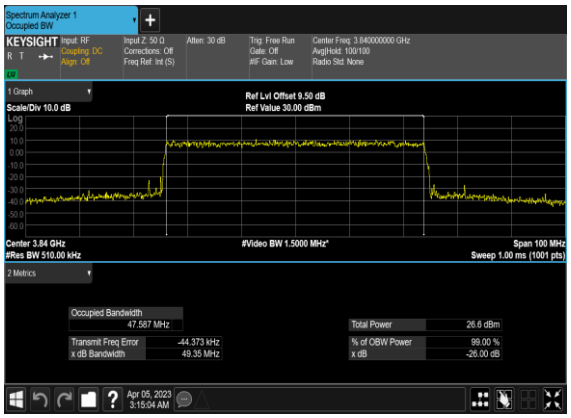


N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

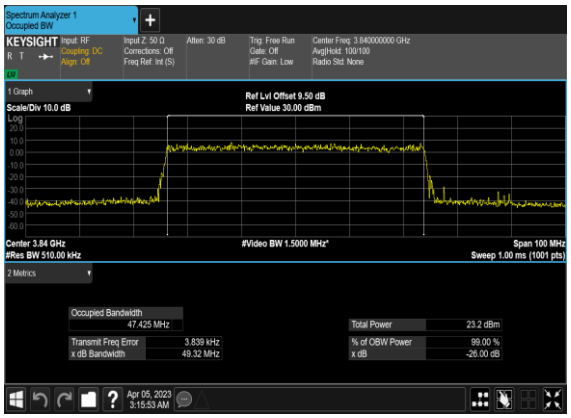


N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

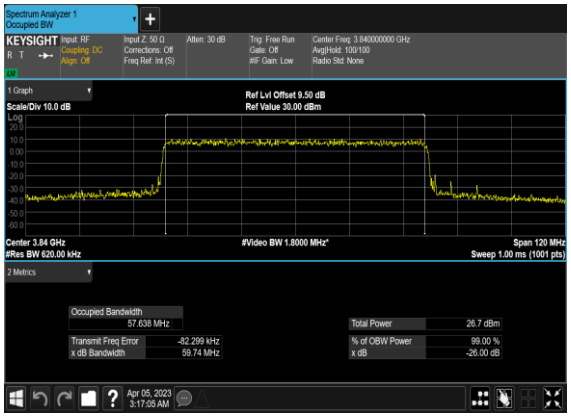
N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



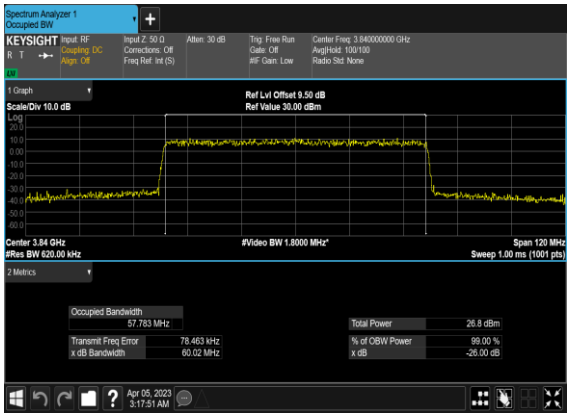
N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



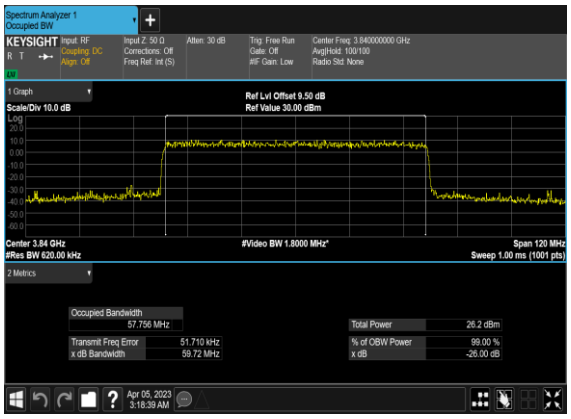
N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



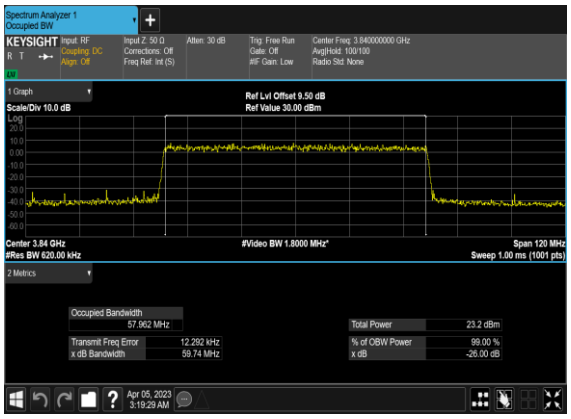
N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

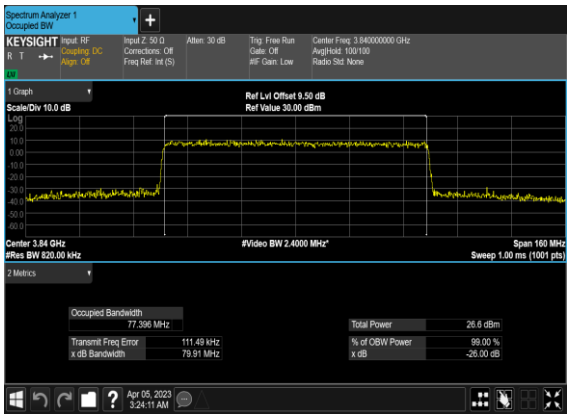


N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

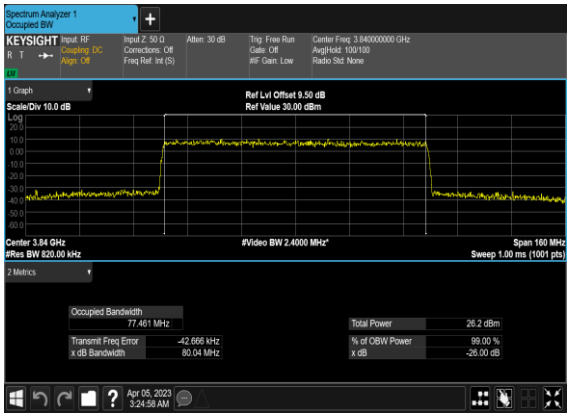


N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

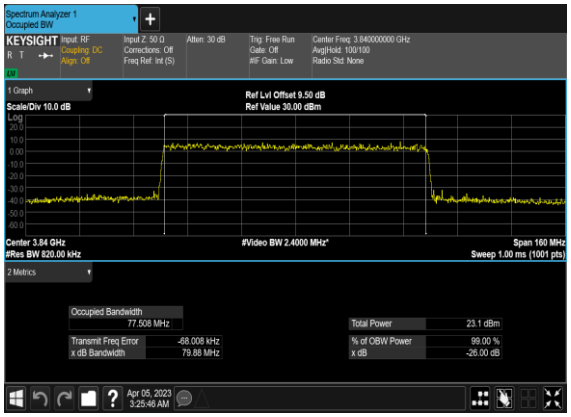
N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

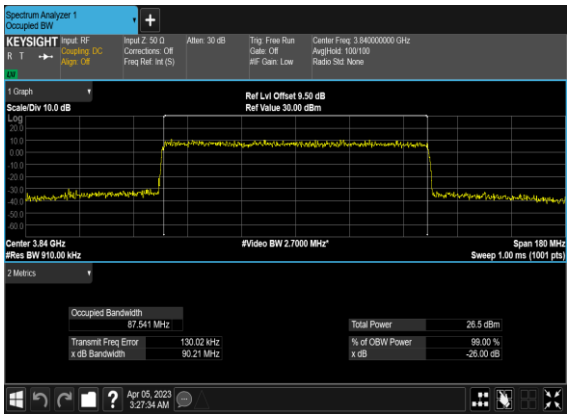


N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

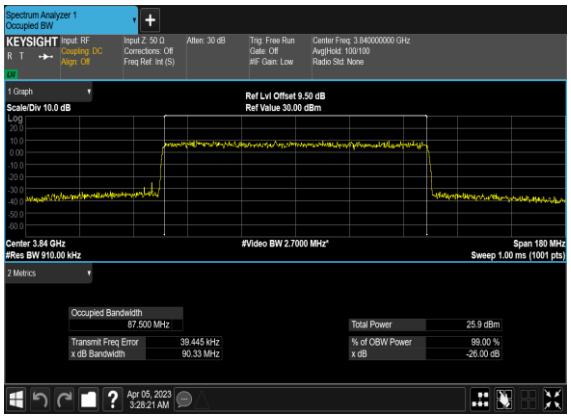


N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

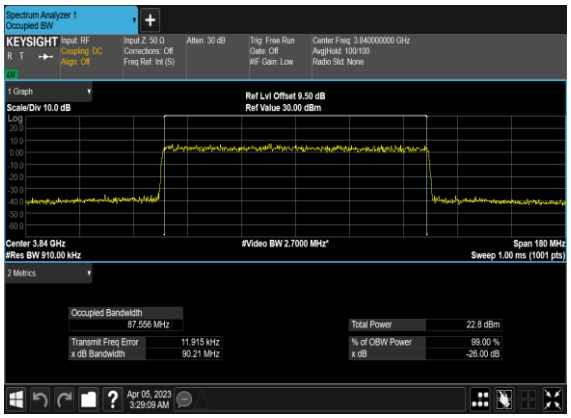
N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



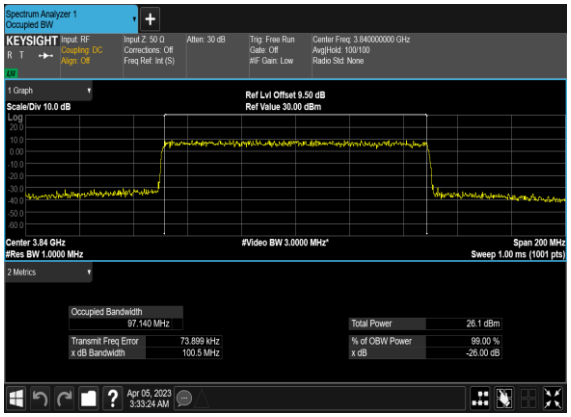
N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



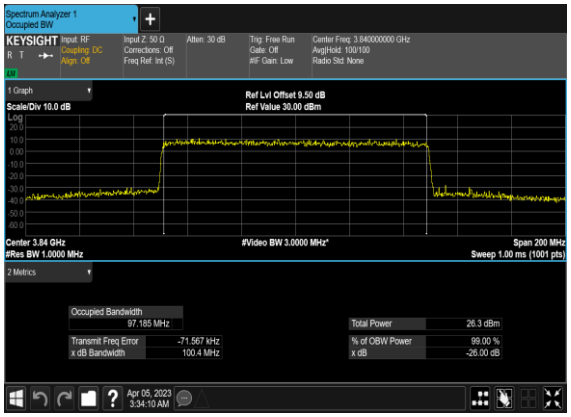
N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



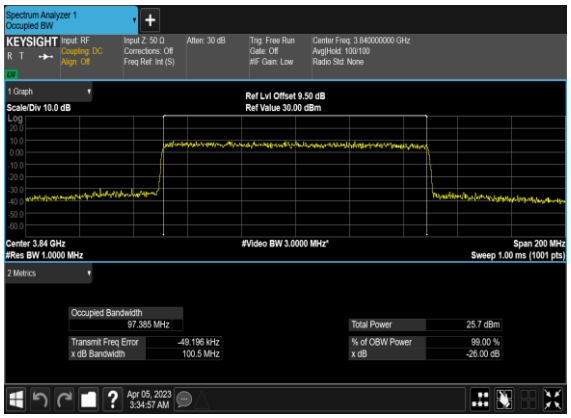
N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



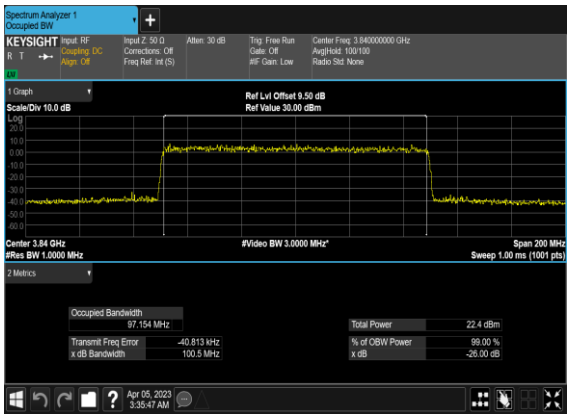
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

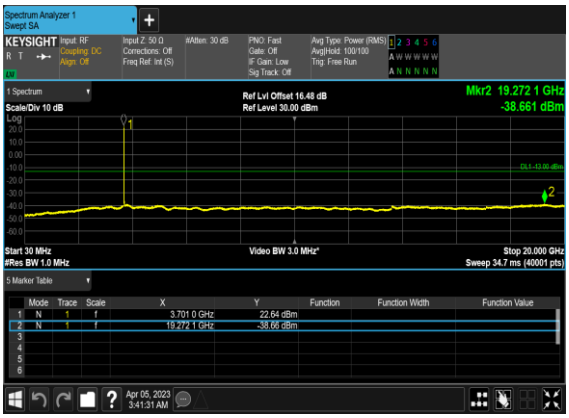


Conducted Spurious Emissions

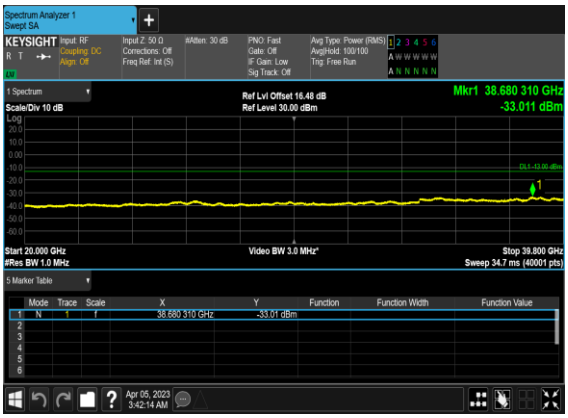
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	10	647000	3705.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	10	647000	3705.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	10	647000	3705.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	10	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	10	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	10	665000	3975.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	10	665000	3975.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM QPSK	1@0	see graph	**---**
77	30	50	648334	3725.01	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	50	648334	3725.01	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	50	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	50	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM QPSK	1@0	see graph	**---**
77	30	50	663666	3954.99	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	50	663666	3954.99	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM QPSK	1@0	see graph	**PASS**

77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	656000	3840.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	**---**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	**---**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**

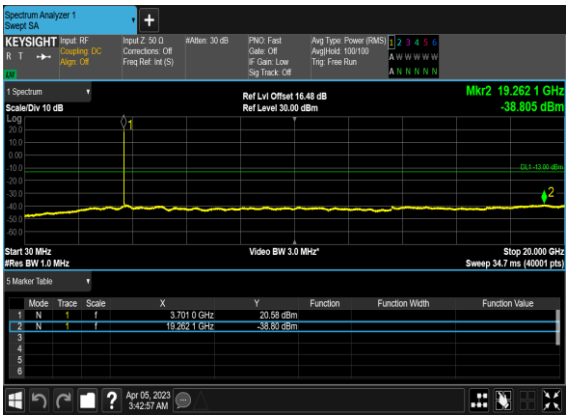
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



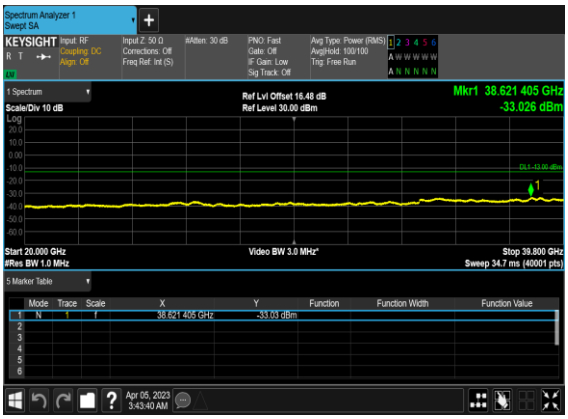
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



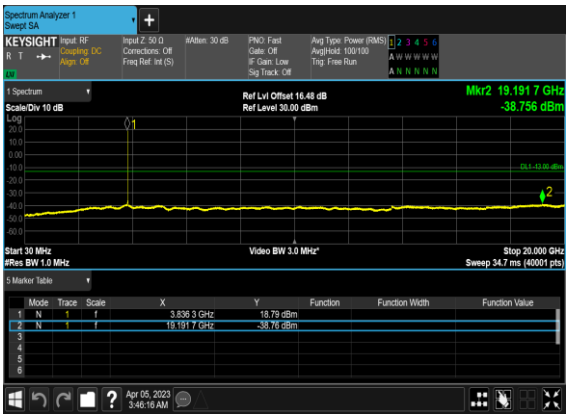
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



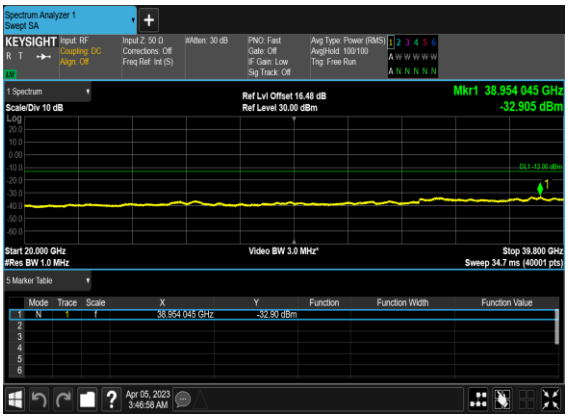
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



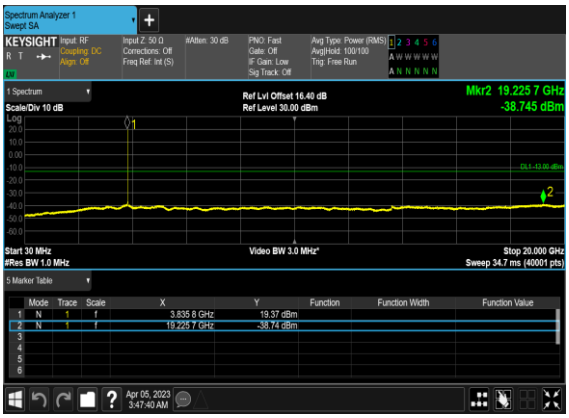
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



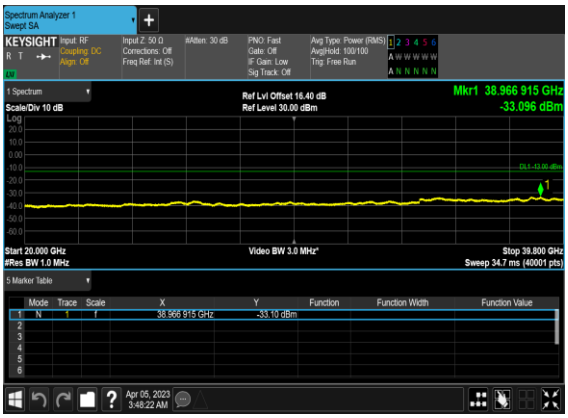
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



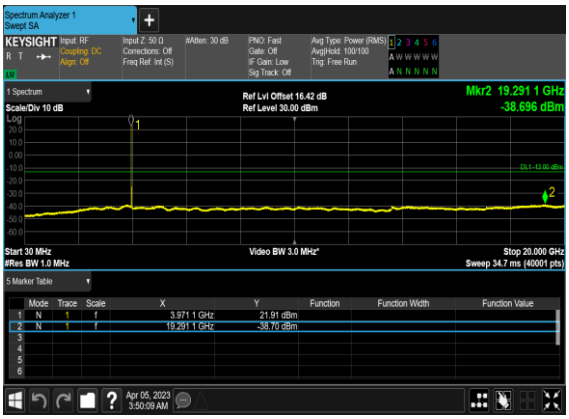
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



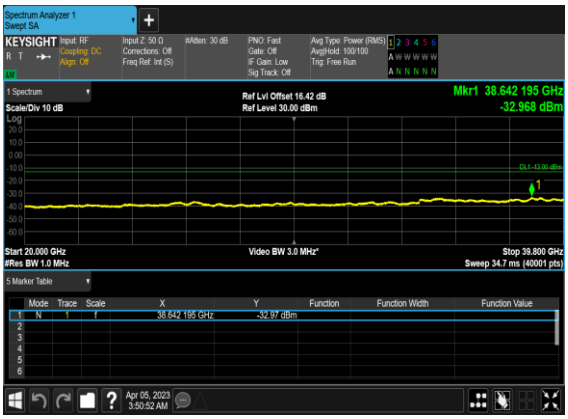
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



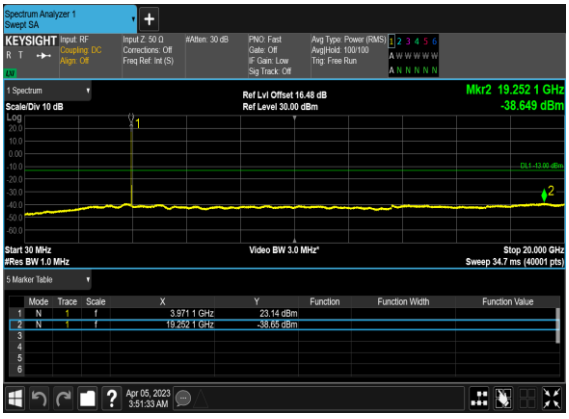
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



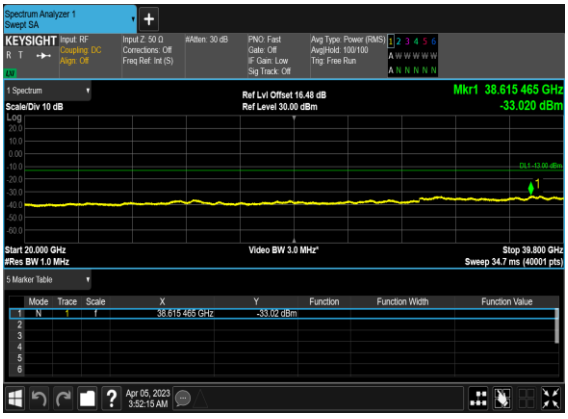
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



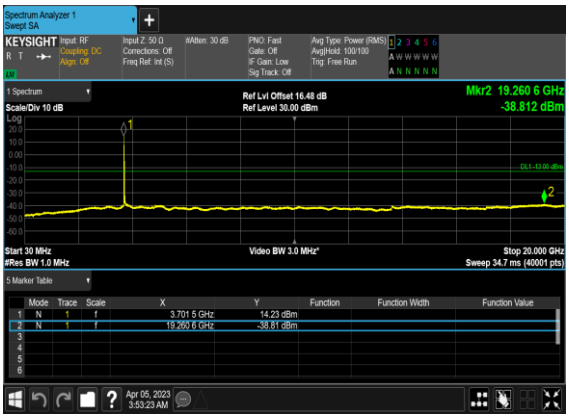
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



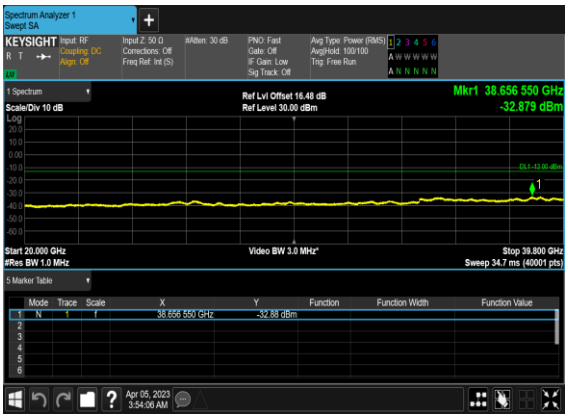
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



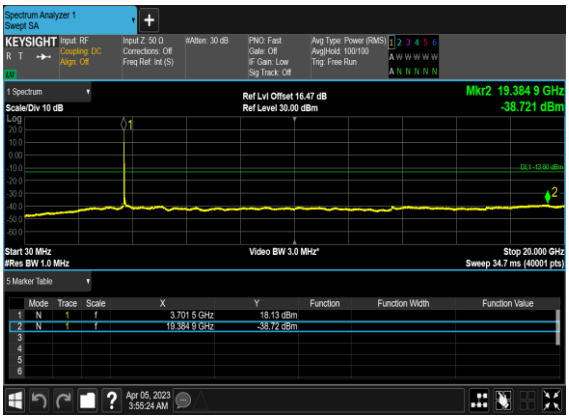
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



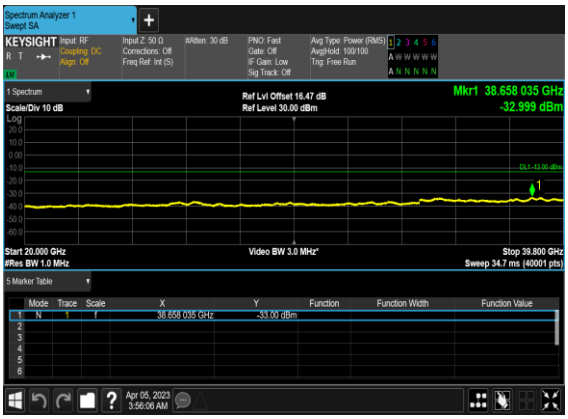
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



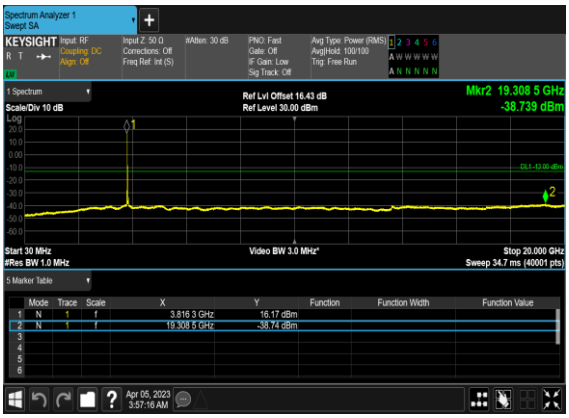
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



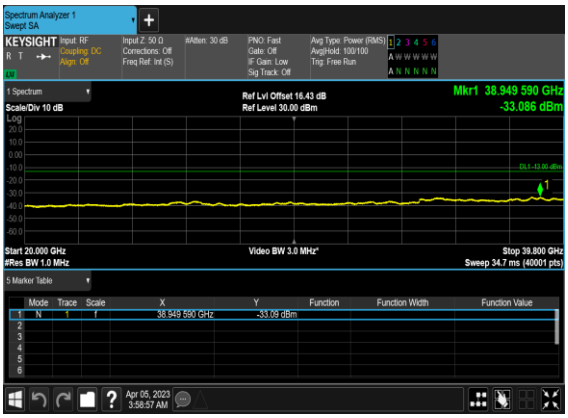
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



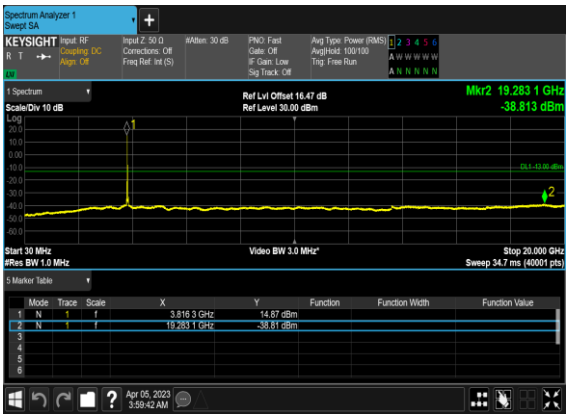
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



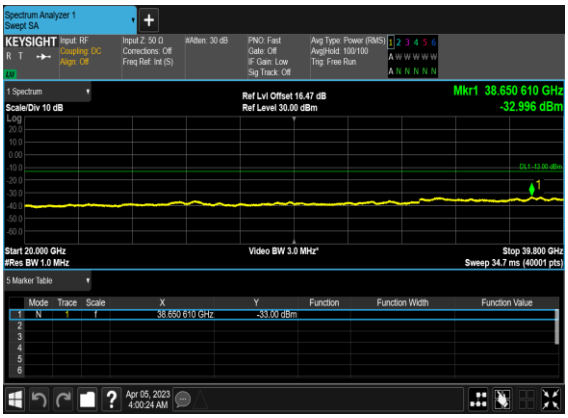
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



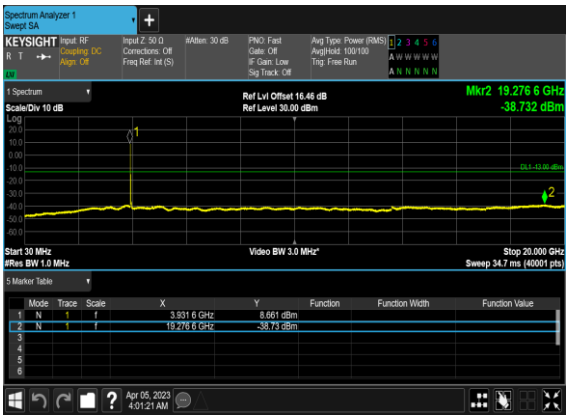
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



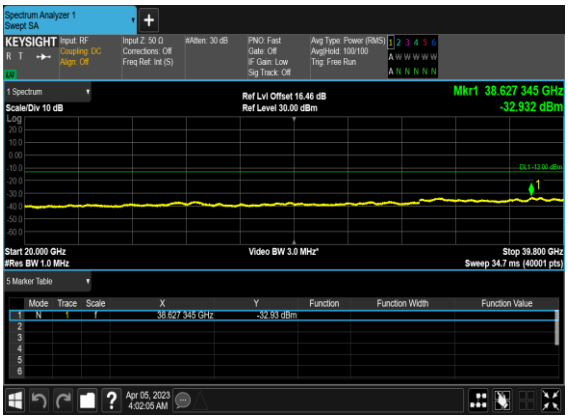
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



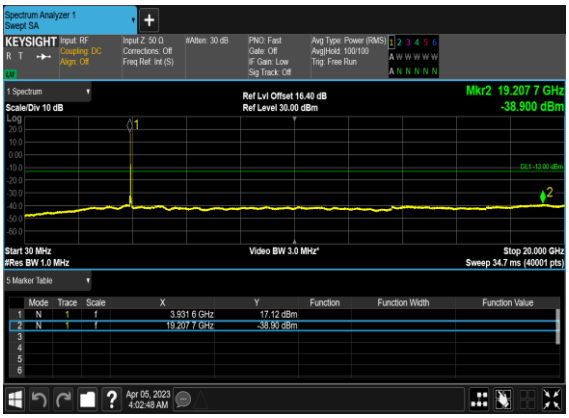
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



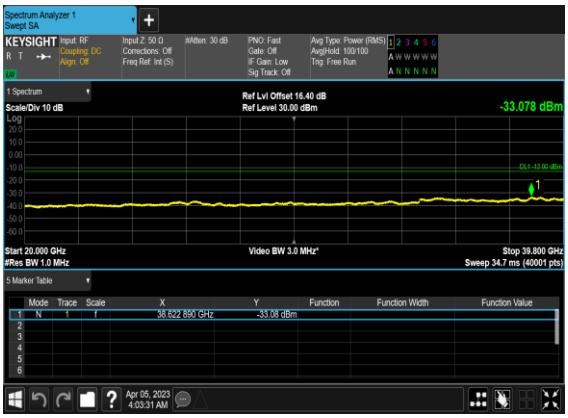
N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



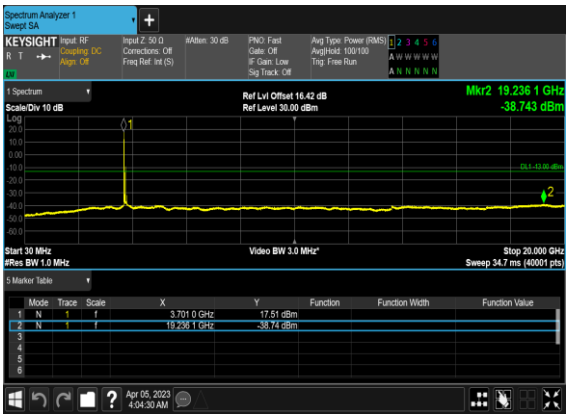
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



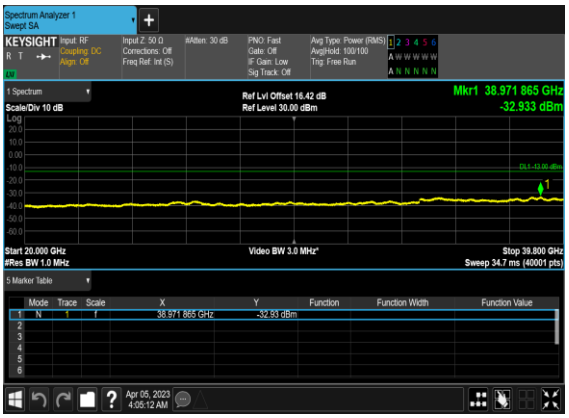
N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



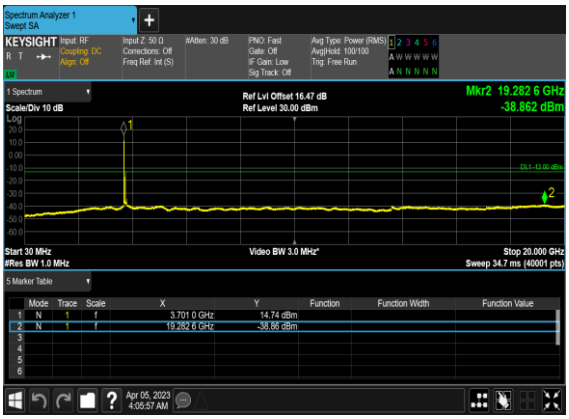
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



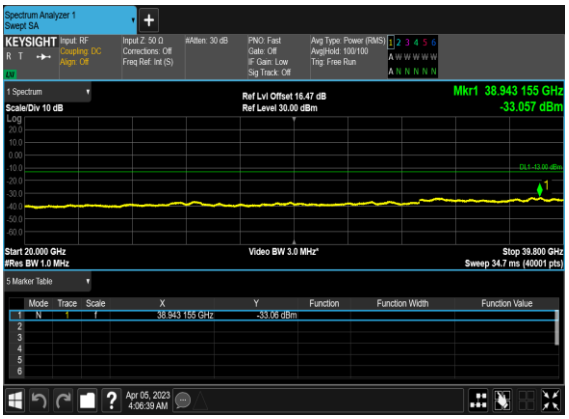
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH



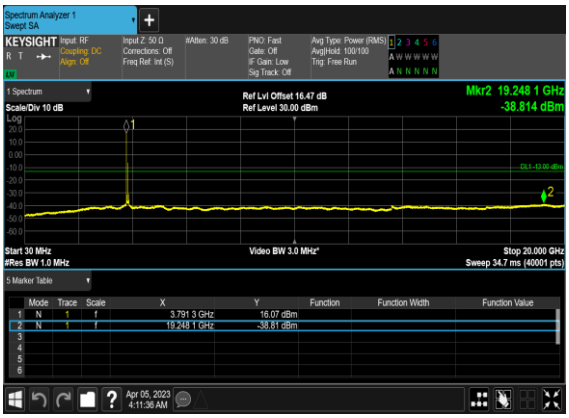
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



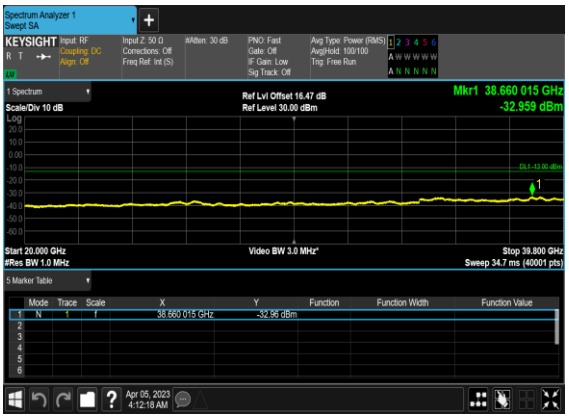
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



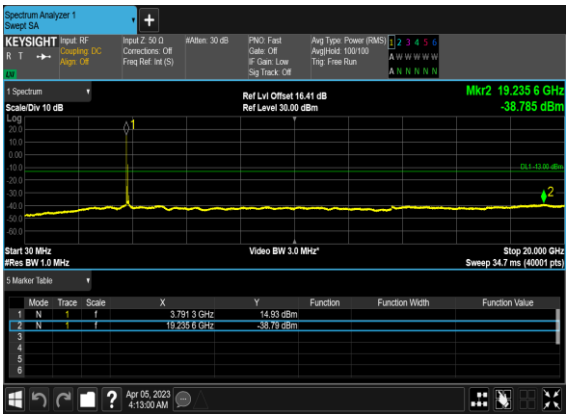
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



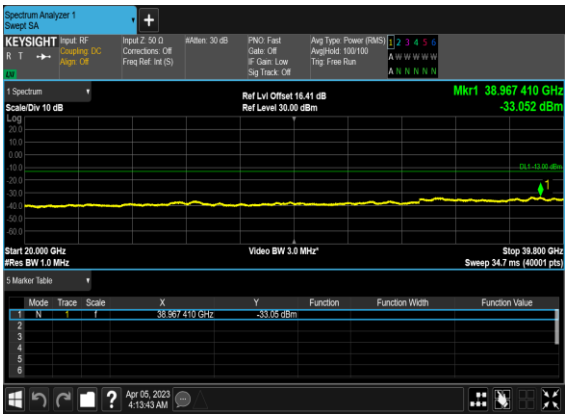
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_Mid_CH



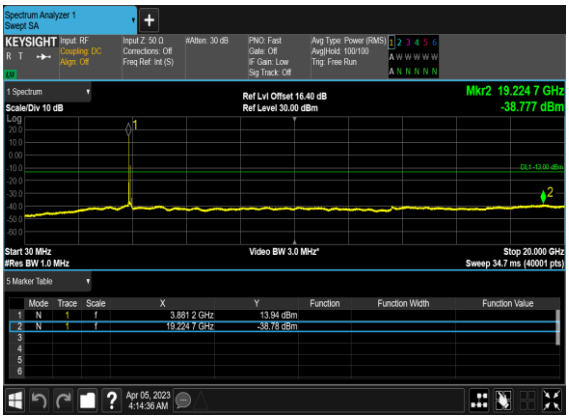
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



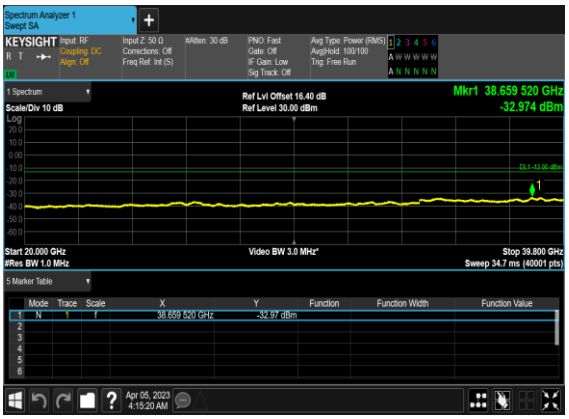
N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_Mid_CH



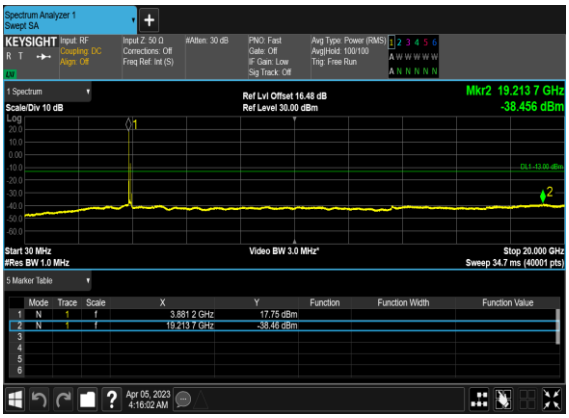
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



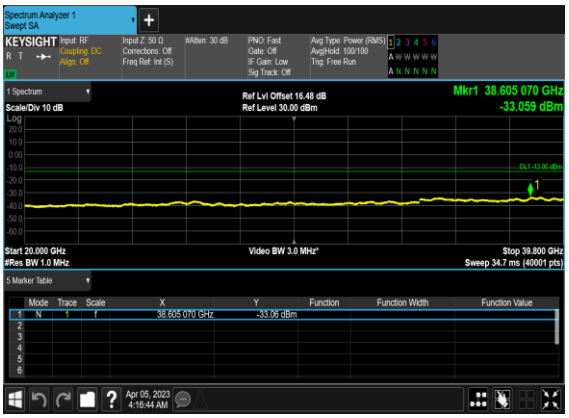
N77(100M)_CP-OFDM_QPSK_Edge_1RB_Left_High_CH



N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



N77(100M)_CP-OFDM_16 QAM_Edge_1RB_Left_High_CH



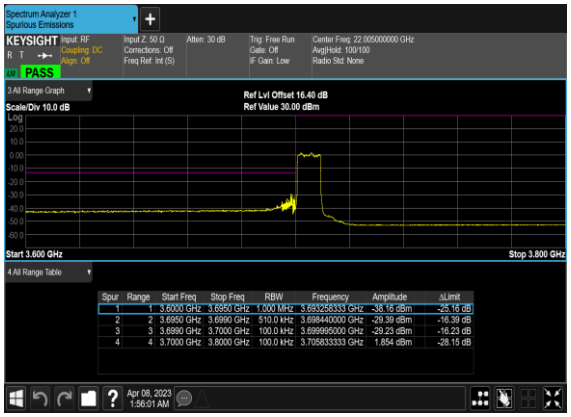
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	10	647000	3705.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM QPSK	24@0	see graph	**PASS**
77	30	10	647000	3705.0	CP-OFDM 16 QAM	24@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM QPSK	1@23	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM 16 QAM	1@23	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM QPSK	24@0	see graph	**PASS**
77	30	10	665000	3975.0	CP-OFDM 16 QAM	24@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM QPSK	133@0	see graph	**PASS**
77	30	50	648334	3725.01	CP-OFDM 16 QAM	133@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM QPSK	1@132	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM 16 QAM	1@132	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM QPSK	133@0	see graph	**PASS**
77	30	50	663666	3954.99	CP-OFDM 16 QAM	133@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	1@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM QPSK	273@0	see graph	**PASS**
77	30	100	650000	3750.0	CP-OFDM 16 QAM	273@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	1@272	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	1@272	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM QPSK	273@0	see graph	**PASS**
77	30	100	662000	3930.0	CP-OFDM 16 QAM	273@0	see graph	**PASS**

N77(10M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

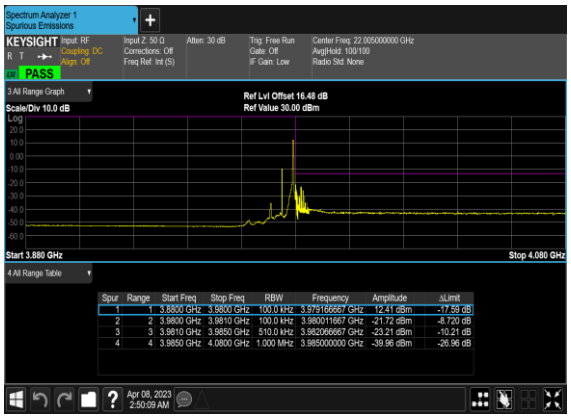
N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH

N77(10M)_CP-OFDM_QPSK_Outer_Full_Low_CH



N77(10M)_CP-OFDM_16 QAM_Outer_Full_Low_CH

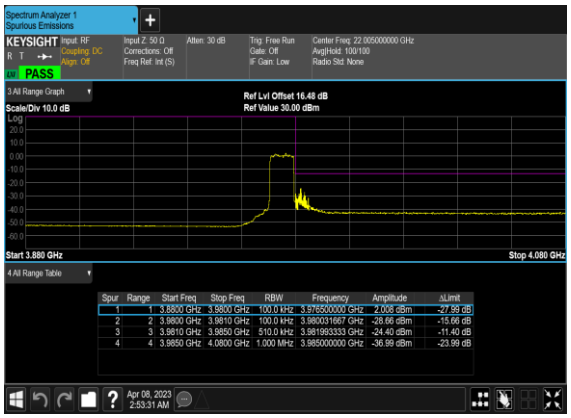
N77(10M)_CP-OFDM_QPSK_Edge_1RB_Right_High_CH



N77(10M)_CP-OFDM_16 QAM_Edge_1RB_Right_High_CH

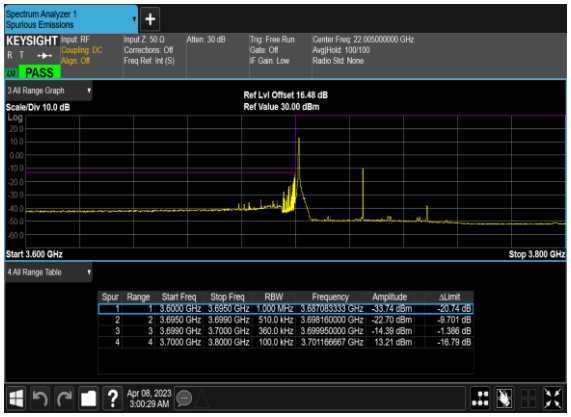
N77(10M)_CP-OFDM_QPSK_Outer_Full_High_CH

N77(10M)_CP-OFDM_16 QAM_Outer_Full_High_CH



N77(50M)_CP-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(50M)_CP-OFDM_16 QAM_Edge_1RB_Left_Low_CH



N77(50M)_CP-OFDM_QPSK_Outer_Full_Low_CH

N77(50M)_CP-OFDM_16 QAM_Outer_Full_Low_CH